

Title (en)

Use of micromodule as surface mount package and corresponding method

Title (de)

Verwendung einer Mikromodul als oberflächenmontiertes Gehäuse und entsprechendes Verfahren

Title (fr)

Utilisation d'un micromodule comme boîtier de montage en surface et procédé correspondant

Publication

EP 0746188 A1 19961204 (FR)

Application

EP 96401143 A 19960528

Priority

FR 9506328 A 19950529

Abstract (en)

The micromodule is made into an enclosure by combining a micromodule (M) with protruding connectors (6) formed as contact zones flush w.r.t. each other onto a semiconductor substrate (S) which has corresponding contact areas (5) and tracks. The tracks cover the substrate surface and have end holes for surface mounted pins to be connected to the substrate. Solder expansion barriers (4) are provided at each connector.

Abstract (fr)

Un micromodule M est utilisé comme boîtier de montage en surface d'un substrat d'interconnexions S. Dans un premier mode de réalisation de l'invention, des barrières à l'expansion de soudure 4 sont formées entre des zones de contact 1 du micromodule et des plots de contact correspondants du substrat S. Une butée mécanique 6 est prévue pour maintenir l'épaisseur e de l'interface de soudure. Dans un autre mode de réalisation de l'invention, des zones de contact se prolongent par des languettes, une opération de cambrage permettant de former des broches B1 de montage en surface. <IMAGE>

IPC 1-7

H05K 3/34; **H01L 23/498**

IPC 8 full level

H05K 1/18 (2006.01); **G06K 19/077** (2006.01); **H01L 23/24** (2006.01); **H01L 23/31** (2006.01); **H01L 23/498** (2006.01); **H05K 3/34** (2006.01)

CPC (source: EP US)

G06K 19/07745 (2013.01 - EP US); **H01L 23/24** (2013.01 - EP US); **H01L 23/3121** (2013.01 - EP US); **H01L 23/49855** (2013.01 - EP US); **H01L 24/97** (2013.01 - EP US); **H05K 3/3436** (2013.01 - EP US); **H01L 24/48** (2013.01 - EP US); **H01L 2224/48091** (2013.01 - EP US); **H01L 2224/97** (2013.01 - EP US); **H01L 2924/00014** (2013.01 - EP US); **H01L 2924/01015** (2013.01 - EP US); **H01L 2924/01029** (2013.01 - EP US); **H01L 2924/01033** (2013.01 - EP US); **H01L 2924/01039** (2013.01 - EP US); **H01L 2924/01058** (2013.01 - EP US); **H01L 2924/01063** (2013.01 - EP US); **H01L 2924/01074** (2013.01 - EP US); **H01L 2924/01079** (2013.01 - EP US); **H01L 2924/01082** (2013.01 - EP US); **H01L 2924/01084** (2013.01 - EP US); **H01L 2924/01094** (2013.01 - EP US); **H01L 2924/12041** (2013.01 - EP US); **H01L 2924/14** (2013.01 - EP US); **H01L 2924/181** (2013.01 - EP US); **H05K 3/3426** (2013.01 - EP US); **H05K 2201/10818** (2013.01 - EP US); **H05K 2201/2081** (2013.01 - EP US); **Y02P 70/50** (2015.11 - EP US)

C-Set (source: EP US)

1. **H01L 2224/48091** + **H01L 2924/00014**
2. **H01L 2224/97** + **H01L 2224/85**
3. **H01L 2924/00014** + **H01L 2224/45099**
4. **H01L 2924/181** + **H01L 2924/00012**

Citation (search report)

- [XY] EP 0623956 A2 19941109 - MOTOROLA INC [US]
- [DAY] EP 0391790 A1 19901010 - SGS THOMSON MICROELECTRONICS [FR]
- [X] EP 0498446 A2 19920812 - TOSHIBA KK [JP]
- [X] GB 2115607 A 19830907 - HITACHI LTD
- [A] EP 0624053 A2 19941109 - SONY CORP [JP]
- [A] FR 2487580 A1 19820129 - THOMSON CSF MAT TEL [FR]
- [A] EP 0408904 A2 19910123 - MOTOROLA INC [US]
- [A] DE 3536431 A1 19870416 - STANDARD ELEKTRIK LORENZ AG [DE]
- [AY] "Ball limiting annulus structure for C4 bump formation", IBM TECHNICAL DISCLOSURE BULLETIN, vol. 36, no. 10, October 1993 (1993-10-01), NEW YORK US, pages 481 - 483, XP000412454

Cited by

US6018197A; EP0838854A3; US6313524B1; WO9813870A1

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